National Science Foundation
Rotational Vacancy

ANNOUNCEMENT NO: E20020118-Rotator **OPEN:** 05/20/2002 **CLOSE:** 06/24/2002

POSITIONS WILL BE FILLED ON A ONE OR TWO YEAR VISITING SCIENTIST, TEMPORARY BASIS OR INTERGOVERNMENTAL PERSONNEL ACT (IPA) BASIS.

Individuals wishing to apply to the permanent position see vacancy announcement number E20020119.

The National Science Foundation is seeking qualified candidates for three positions to be filled in the Dynamic System Modeling, Sensing and Control (DSMSC), Structural Systems and Hazards Mitigation of Structures (SSHM), and Solid Mechanics and Materials Engineering (SMME) Programs, Division of Civil and Mechanical Systems (CMS), Directorate for Engineering (ENG), Arlington, VA. Selected candidates will be filled as Program Directors, AD-830-4 (Mechanical Engineer) or AD-810-4 (Civil Engineer). CMS funds research that contributes to the knowledge base and intellectual growth in the areas of infrastructure construction and management, geotechnology, structures, dynamics and control, mechanics, and materials, sensing for civil and mechanical systems as well as the reduction of risks induced by earthquakes and other natural and technological hazards. The division encourages cross-disciplinary partnerships at the intersections of traditional disciplines. These partnerships promote discoveries using technologies such as autoadaptive systems, nanotechnology and simulation to enable revolutionary advances in our nation's civil and mechanical systems.

The Dynamic System Modeling, Sensing and Control (DSMSC) program supports research on the fundamental engineering concepts and mathematical theories for modeling, analysis, simulation and control of complex, nonlinear dynamic systems, including study of new control methods, acoustics, vibrations and kinematics relationships. This program also invests in research on information technologies as related to smart and autoadaptive civil and mechanical systems, including study of new technologies for sensing and acquiring information; multiple and intelligent system functionality; and modeling, synthesis, simulation, and prototyping of intelligent systems and their components. This research will advance the knowledge base for integration of sensors, actuators, controllers, and power sources for autoadaptive applications. The program is directed collaboratively by two program directors with overlapping expertise, one primarily in sensor technologies and one primarily in dynamic systems and controls. A candidate for the latter position is being sought by this announcement.

The Structural Systems and Hazards Mitigation of Structures (SSHM) program supports research on new technologies for improving the behavior and response of structural systems subjected to natural and man-made hazards including earthquake engineering; fundamental research on safety and reliability of constructed systems; innovative developments in analysis; and model based simulation of structural behavior and response, including soil-structure interaction; design concepts that improve structure performance and flexibility; and application of new control techniques for structural systems. The program has a strong component that deals with dynamic and impact loading. The program also supports experimental and analytical investigations and simulation modeling of material microstructures and their connections to nano-, meso- and macro-scale structural behavior. The program is directed collaboratively by two program directors with overlapping expertise, one with expertise primarily in infrastructure materials and structural mechanics, the other with primary expertise in structural systems and hazards mitigation of structures. A candidate for the latter position is being sought by this announcement.

The Solid Mechanics and Materials Engineering (SMME) program links the expertise of analytical, computational and experimental solid mechanics with materials and surface engineering to understand, characterize, analyze, design and control the mechanical properties and performance of materials and devices. The program supports basic engineering research into deformation, fracture, fatigue, friction, wear and corrosion of all types of materials, including composites, nano-structured materials, , and coatings and surface modification for service under extreme conditions. The program also supports experimental and analytical investigations and simulation modeling of material microstructures and their connections to nano-, meso- and macro-scale structural behavior. The program is directed collaboratively by two program directors

with overlapping expertise, one with primarily mechanics expertise and the other with primary expertise in surface and materials engineering. A candidate for the latter position is being sought by this announcement.

The Positions will be filled on a one or two year Visiting Scientist Appointment, Temporary Appointment or under the terms of the Intergovernmental Personnel Act (IPA). Temporary and Visiting Scientist appointments will be made under the Excepted Authority of the NSF Act. For temporary appointments of more than one year, the usual civil service benefits (retirement, health and life insurance) are applicable. For Visiting Scientist appointments, individuals are in a non-pay leave status from the home institution and are appointed to NSF's payroll as a Federal employee. NSF withholds Social Security and provides reimbursement for fringe benefits. For IPA assignments, the individual remains on the payroll of his/her institution and the institution continues to administer pay and benefits. NSF reimburses the institution for NSF's negotiated share of the costs. Individuals eligible for an IPA assignment include employees of State and local government agencies, institutions of higher education, Indian tribal governments, federally funded research and development centers and qualified nonprofit organizations. The individual remains an employee of the home institution.

DUTIES AND RESPONSIBILITIES: The incumbents will be responsible for long-range planning and budget development for the areas of engineering represented by the program, the administration of the merit review process and proposal recommendations, the preparation of press releases, feature articles and material describing advances in the research supported, and coordination and liaison with other programs in NSF, other Federal agencies and organizations. Other duties and responsibilities include the following:

- Creating and maintaining linkages to other NSF units and other Federal agencies in pursuit of the overall NSF mission.
- Participating in staff, panel, committee and other meetings, providing input relevant to Program area and/or Division.
- Pursuing affirmative action and EEO goals.
- Pursuing and/or be responsive to assignment on special projects and temporary functional teams from across the Foundation to solve problems, improve staff communication, and effect coordination for special programs.
- Contributing ideas and effort to improving the quality of policies and NSF's performance of the overall mission.
- Preparing and disseminating a variety of informational documents which may include data on progress being made toward NSF's goals, trends and opportunities papers, and budget plans.

QUALIFICATIONS REQUIRED: The DSMSC position requires an engineering Ph.D. degree or equivalent experience in dynamic systems and/or control systems. The SSHM position requires a Ph.D. degree or equivalent experience in structural engineering. The SMME position requires a Ph.D. degree or equivalent experience in materials and surface engineering. In addition, at least six or more years of successful research, research administration, and/or managerial experience beyond the Ph.D. pertinent to the above disciplines is required.

HOW TO APPLY: The salary range, which includes a locality pay adjustment, is from $78,265 to $121,967 per annum depending on qualifications and experience. Individuals interested in applying for this vacancy should submit a resume or any application of your choice to the National Science Foundation, Division of Human Resource Management, 4201 Wilson Blvd., Arlington, VA 22230, Attn: E20020118-Rotator. In addition you are asked to complete and submit the attached Applicant Survey form. Submission of this form is voluntary and will not affect your application for employment (the information is used for statistical purposes). Telephone inquiries may be referred to Maria Sutton, at (703) 292-4364. For technical information, contact Richard Fragaszy, Division of Civil and Mechanical Systems, at (703) 292-8360. Hearing impaired individuals may call TDD (703) 292-8044. Announcements may be accessed electronically on the World Wide Web at: http://www.nsf.gov/jobs/.

The National Science Foundation provides reasonable accommodations to applicants with disabilities on a case-by-case basis. If you need a reasonable accommodation for any part of the application and hiring process, please notify the point of contact listed on this vacancy announcement.

NSF IS AN EQUAL OPPORTUNITY EMPLOYER COMMITTED TO EMPLOYING A HIGHLY QUALIFIED STAFF THAT REFLECTS THE DIVERSITY OF OUR NATION

NATIONAL SCIENCE FOUNDATION
APPLICANT SURVEY

OMB No. 3145-0096
Expiration: August 2002

Vacancy Ann. #: _____ Position Status (temporary/permanent): _____

Position Title/Series/Grade: _____

INSTRUCTIONS

Your completion of this form will be appreciated. Submission of this Information is voluntary and it will have no effect on the processing of your application. The data collected will be used only for statistical purposes to ensure that agency personnel practices meet the requirements of Federal law. Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0096. NSF estimates that each respondent should take about 3 minutes to complete this survey, including time to read the instructions. You may have comments regarding this burden estimate or any other aspect of this survey, including suggestions for reducing this burden. If so, please send them to NSF Reports Clearance Officer, Division of Administrative Services, NSF, 4201 Wilson Blvd., Arlington, VA. 22230.

PRIVACY ACT INFORMATION

GENERAL - This information is provided pursuant to Public Law 93-579 (Privacy Act of 1974), December 31, 1974, for individuals completing Federal records and forms that solicit personal information.
AUTHORITY - Section 7201 of title 5 of the U.S. Code and Section 2000e-16 of title 42 of the U.S. Code.

PURPOSE AND ROUTINE USES

The information is used for research and for a Federal Equal Opportunity Recruitment Program (FEORP) to help insure that agency personnel practices meet the requirements of Federal law. Address questions concerning this form and its uses to the Privacy Act Officer, National Science Foundation, Arlington, VA 22230.

1. Today's Date: _____ 2. Year of Birth: _____

3. How did you learn about the particular position for which you are applying? (Circle appropriate number.)

01 - Newspaper (specify)
02 - Contact with NSF Personnel Office (Agency Bulletin Board or other Announcement)
03 - NSF-initiated personal contact
04 - Science Magazine, or other professional journal or magazine (specify)
05 - Affirmative Action Register
06 - Attendance at conference, meeting or job fair (specify)
07 - NSF recruitment at school or college
08 - Colleague referral
09 - NSF Bulletin
10 - Federal, State or local job information center
11 - State vocational rehabilitation agency or Veterans Administration
12 - State employment office
13 - School or college counselor or other official
14 - Private job Information service
15 - Private employment service
16 - Friend or relative working at NSF
17 - Friend or relative not working at NSF
18 - NSF website
19 - Internet or other website
20 - Other (specify)

4. Please select the racial/ethnic category with which you most closely identify yourself. (Circle the appropriate letter)

A. **American Indian or Alaskan Native**. A person having origins in any of the original peoples of North America, who maintains cultural identification through tribal affiliation or community recognition.
B. **Asian or Pacific Islander**. A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Korea, the Philippine Islands, and Samoa.
C. **Black, not of Hispanic origin**. A person having origins in any of the Black racial groups of Africa. This does not include persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish cultures or origins.
D. **Hispanic**. A person of Mexican, Puerto Rican, Cuban, Central or South . American or other Spanish culture or origin, regardless of race.
E. **White, not of Hispanic origin**. A person having origins in any of the original peoples of Europe, North Africa or the Middle East. This does not include persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish cultures or origin.

5. Sex (Circle the appropriate letter.) F - Female M - Male

6. Please provide Information on your disability status by circling the appropriate category below:
1. I do not have a disability; 2. Hearing impairment; 3. Vision impairment; 4. Missing extremities; 5. Partial paralysis; 6. Complete paralysis; 7. Convulsive disorder; 8. Mental retardation; 9. Mental or emotional illness; 10.Severe distortion of limbs and/or spine; 11. I have a disability but it is not listed.

FOR AGENCY USE

Agency Code: _____

AN EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER